

The listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-33 (Canceled).

Claim 34 (New). System (1) for dispensing stackable objects (2) in shaft-type dispenser magazines (13) of at least one storage unit (4) and monitoring the levels (31) in the dispenser magazines (13) by means of a detection system (30), which dispenser magazines (13) are disposed in the longitudinal direction of the storage unit (4) aligned one after the other in a row and each is formed by a guide section against certain regions of which the objects (2) stacked one on top of the other in a dispenser magazine (13) lie, and discharge mechanisms (21) controlled by a computer system are provided at the bottom end (20) of each of the dispenser magazines (13), and the detection system (30) is connected to the computer system, wherein the detection system (30) comprises at least one control carriage (32) disposed above the top end (38) of the dispenser magazines (13) which can be displaced by means of at least one drive system

(37; 37') between the individual dispenser magazines (13) in the longitudinal direction of the storage unit (4) and which is provided with a measuring unit (33) for detecting the distance (41) between the uppermost object (2) lying the farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of a dispenser magazine (13) in order to determine the level (31) of objects (2) in at least one of the dispenser magazines (13).

Claim 35 (New). System according to claim 34, wherein the control carriage (32) has at least one guide arrangement (35) by means of which it is guided on a guide track (36) extending in the longitudinal direction of the storage unit (4) and disposed adjacent to the top end (38) of the dispenser magazines (13).

Claim 36 (New). System according to claim 35, wherein the guide track (36) is provided in the form of at least one linear guide (36') and the control carriage (32) is mounted by means of the guide arrangement (35) on the linear guide (36'), and is mounted on a support frame (8) of the system (1) so that it can be displaced by means of the drive system (37; 37').

Claim 37 (New). System according to claim 34, wherein the drive system (37; 37') is provided in the form of a traction drive, friction gear drive, toothed gear-toothed rack drive or linear drive coupled with a drive motor (56; 60) and the drive motor (56; 60) is connected to a control system of the computer system.

Claim 38 (New). System according to claim 34, wherein the measuring unit (33) is provided in the form of a measuring system which detects the distance (41) without contact.

Claim 39 (New). System according to claim 38, wherein the measuring unit (33) is provided in the form of an optoelectronic measuring system, in particular a laser or infrared measuring system, and a scanning beam (39) of the measuring unit (33) extends essentially parallel with the longitudinal extension of the dispenser magazines (13) and essentially perpendicular to the discharge plane (24) of the discharge mechanism (21).

Claim 40 (New). System according to claim 38, wherein the measuring unit (33) is provided in the form of an ultrasound sensor and ultrasound waves of the measuring unit (33) extend

essentially parallel with the longitudinal extension of the dispenser magazines (13) and essentially perpendicular to the discharge plane (24) of the discharge mechanism (21).

Claim 41 (New). System according to claim 34, wherein a positioning system (58) is provided for positioning and detecting the actual position of the control carriage (32) relative to the individual dispenser magazines (13).

Claim 42 (New). System according to claim 41, wherein the positioning system (58) comprises a distance measuring system or a position locating system for detecting the relative position of the control carriage (32) with respect to the individual dispenser magazines (13).

Claim 43 (New). System according to claim 37, wherein the drive motor (56; 60) incorporates the distance measuring system or the distance measuring system is disposed between the control carriage (32) and a support frame (8) of the system (1).

Claim 44 (New). System according to claim 42, wherein the position locating system is provided in the form of a navigation system, in particular GPS, comprising a transmitter and/or

receiver unit disposed on the control carriage (32) and a transmitter and/ or receiver unit disposed in the frame region of the system (1).

Claim 45 (New). System according to claim 34, wherein a second storage unit (4') is disposed lying opposite the first storage unit (4) by reference to a vertical plane of symmetry (12), and the second storage unit (4') has shaft-type, elongate dispenser magazines (13) disposed in its longitudinal direction aligned one after the other in a row, and a discharge mechanism (21) is provided at the bottom end (20) of each dispenser magazine (13), and a conveyor system (3), in particular a belt conveyor, extends between the two storage units (4, 4') parallel with their longitudinal direction disposed at a slight distance underneath the bottom end (20) of the dispenser magazines (13) and a discharge direction of each discharge mechanism (21) extends transversely to the longitudinal direction of the conveyor system (3).

Claim 46 (New). System according to claim 45, wherein the storage units (4, 4') are disposed on both sides of the guide track (36), and the guide track (36) extends continuously, adjacent to and parallel with the top end (38) of the oppositely

lying dispenser magazines (13) in the longitudinal direction of the storage units (4, 4') across the entire length of the system (1), and the control carriage (32) is provided with two respective measuring units (33) transversely offset from the guide track (36) in the direction of the storage units (4, 4') and disposed above the dispenser magazines (13) of the storage units (4, 4') for detecting the distance (41) in the relevant dispenser magazines (13) of the storage units (4, 4').

Claim 47 (New). System according to claim 45, wherein the dispenser magazines (13) of the storage units (4, 4') are inclined towards a horizontal conveyor plane of the conveyor system (3) and optionally also in the longitudinal direction of the conveyor system (3).

Claim 48 (New). System according to claim 34, wherein the dispenser magazines (13) and the guide track (36) are mounted on a common support frame (8) of the system (1) and the guide section of the dispenser magazines (13) is of a U-shaped design and is open at its terminal ends (20, 38), and a base (15) faces the support frame (8) and parallel legs (16) of the base (15) bound a slot-like object top-up opening (19).

Claim 49 (New). System according to claim 34, wherein the at least one measuring unit (33) is connected to a control system of the computer system of a warehouse management system and/or a control unit (63).

Claim 50 (New). System according to claim 34, wherein each dispenser magazine (13) is provided with a control unit (63) comprising at least one input device (64) and/or output device (65) with an acoustic and/or optical output element, for example a signal horn and/or warning lamp and/or speech output module.

Claim 51 (New). System according to claim 34, wherein the at least one measuring unit (33) and the control system of the computer system of the warehouse management system and/or the control unit (63) and/or the drive system (37, 37'), in particular the controller of the drive motor (56; 60), are respectively provided with a transmitter and receiver unit for reciprocally transmitting data and/or signals wirelessly.

Claim 52 (New). Method of dispensing stackable objects (2) in shaft-type dispenser magazines (13) of at least one storage unit (4) and monitoring the level (31) in the dispenser magazines (13) by means of a detection system (30), whereby the objects (2)

are firstly stacked one on top of the other in shaft-type dispenser magazines (13) disposed one after the other in a row, after which they are dispensed individually by means of computer-controlled discharge mechanisms (21) disposed at the bottom end (20) of each of the dispenser magazines (13), wherein a control carriage (32) incorporating the detection system (30) is displaced in the longitudinal direction of the storage unit (4) above top ends (38) of the dispenser magazines (13) between the dispenser magazines (13) disposed one after the other in the displacement (46) of the control carriage (32), and as the control carriage (31) is being displaced, a distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of a dispenser magazine (13) is detected in at least one of the dispenser magazines (13) by means of at least one measuring unit (33) disposed on it and incorporating the detection system (30), after which the level (31) in this relevant dispenser magazine (13) is determined by the computer system.

Claim 53 (New). Method according to claim 52, wherein, firstly, at least one type of object (2) forming part of an order is electronically detected by the computer system in a known manner, after which a desired stock level of objects (2) needed



in the relevant dispenser magazine (13) and corresponding to the order is calculated by the computer system, and then a distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of a dispenser magazine (13) is measured without contact in at least the one dispenser magazine (13) containing the objects (2) for this order, the current level (31) in this relevant dispenser magazine (13) is determined and, taking account of the dimensions (45) of the objects (2) stacked one on top of the other in the stacking direction, the actual stock level of objects (2) in this relevant dispenser magazine (13) is calculated by the computer system, after which the actual stock level of objects (2) is compared with the desired stock level for this relevant dispenser magazine (13) and a demand message is issued to an operator to top up the relevant dispenser magazines (13) at the computer system and/ or at a control unit (63) if the actual stock level of objects (2) falls short of the desired stock level of objects (2) needed for the order entered and/or will shortly fall short of it.

Claim 54 (New). Method according to claim 52, wherein firstly, a sales quantity predicted by the computer system for at least one type of object (2) within a set time window is

electronically detected, after which a desired stock level of objects (2) needed in the relevant dispenser magazine (13) corresponding to the predicted sales quantity is calculated by the computer system, and then a distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of a dispenser magazine (13) is measured in this relevant dispenser magazine (13) without contact, the current level (31) in this relevant dispenser magazine (13) is determined and, taking account of the dimensions (45) of the objects (2) stacked one on top of the other in the stacking direction, the actual stock level of objects (2) in this relevant dispenser magazine (13) is calculated by the computer system, after which the actual stock level of objects (2) is compared with the desired stock level for this relevant dispenser magazine (13) and a demand message is issued to an operator to top up the relevant dispenser magazine (13) at the computer system and/or at a control unit (63) if the actual stock level of objects (2) falls short of the desired stock level of objects (2) needed for the predicted sales quantity and/or will shortly fall below it.

Claim 55 (New). Method according to claim 54, wherein a predicted sales quantity of several different objects (2) within

a set time window is firstly electronically detected by the computer system, after which a desired stock level of objects (2) needed in the relevant dispenser magazines (13) corresponding to the predicted sales quantity is calculated by the computer system, and then a respective distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and the maximum, top level limit (42) of a dispenser magazine (13) is determined in the relevant dispenser magazines (13) without contact, the respective current level (31) in the relevant dispenser magazines (13) is determined and, taking account of the dimensions (45) of the objects stacked one on top of the other in the stacking direction, the actual stock level of objects (2) in these relevant dispenser magazines (13) is calculated by the computer system, after which the respective actual stock level of objects (2) is compared with the desired stock level for these relevant dispenser magazines (13) and a demand message is issued to an operator to top up the relevant dispenser magazines (13) at the computer system and/or at a control unit (63) if the actual stock level of objects (2) falls short of the different objects (2) needed for the predicted sales quantity and/or will shortly fall short of it.

Claim 56 (New). Method according to claim 53, wherein at least one order made up of several different objects (2) is firstly electronically detected by the computer system in a known manner, after which a desired stock level of objects (2) needed in the relevant dispenser magazines (13) corresponding to the order is calculated by the computer system, and then a distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of the dispenser magazines (13) is respectively measured without contact in at least the dispenser magazines (13) containing the objects (2) for the order, the current level (31) in these relevant dispenser magazines (13) is determined and, taking account of the dimensions (45) of the objects (2) stacked one on top of the other in the stacking direction, the actual stock level of objects (2) in these relevant dispenser magazines (13) is calculated by the computer system, after which the actual stock level of objects (2) is compared respectively with the desired stock level for these relevant dispenser magazines (13) and a demand message is issued to an operator to top up the relevant dispenser magazine (13) at the computer system and/or at a control unit (63) if the actual stock level of objects (2) in one of the dispenser magazines (13) falls short of the desired

stock level of objects (2) needed for the order entered and/or will shortly fall short of it.

Claim 57 (New). Method according to claim 53, wherein once the first order and at least one other order has been electronically detected by the computer system, a desired stock level of objects (2) needed in the relevant dispenser magazines (13) corresponding to the orders is calculated by the computer system, and then a distance (41) between the uppermost object (2) lying farthest away from the discharge mechanism (21) and a maximum, top level limit (42) of the dispenser magazines (13) is measured without contact respectively in at least the dispenser magazines (13) containing the objects (2) for the orders, the respective current level (31) in these relevant dispenser magazines (13) is determined and, taking account of the dimensions (45) of the objects (2) stacked one on top of the other in the stacking direction, the actual stock level of objects (2) in these relevant dispenser magazines (13) is calculated by the computer system, after which the actual stock level of objects (2) is compared with the desired stock level for these relevant dispenser magazines (13) and a demand message is issued to an operator to top up the relevant dispenser magazine (13) at the computer system and/or at a control unit (63) if the

actual stock level of objects (2) in one of the dispenser magazines (13) falls short of the desired stock level of objects (2) needed for the orders entered and/or will shortly fall below it.

Claim 58 (New). Method according to claim 53, wherein the demand message is output optically and/or acoustically and/or as a speech message.

Claim 59 (New). Method according to claim 52, wherein distance (41) is measured only in that or those dispenser magazines (13) used to store and dispense the objects (2) sorted into consignments for the order or orders or for the predicted sales quantity, and the detected distance value of the relevant dispenser magazine or magazines (13) is transmitted to the computer system or a control unit (63).

Claim 60 (New). Method according to claim 52, wherein the control carriage (32) approaches and is positioned at only that or those dispenser magazines (13) in which the objects (2) for the order or orders or the predicted sales quantity are stored and dispensed, and the detected distance value of the relevant

dispenser magazine or magazines (13) is transmitted to the computer system or a control unit (63).

Claim 61 (New). Method according to claim 52, wherein the control carriage (32) is moved continuously backwards and forwards in a pendulum motion between the first and last dispenser magazine (13) in its displacement direction (46) and the distance (41) for determining the level (31) is detected in each dispenser magazine (13) during its displacement from the first dispenser magazine (13) to the last dispenser magazine (13) and/or from the last dispenser magazine (13) to the first dispenser magazine (13), and the detected distance value of each dispenser magazine (13) is transmitted to the computer system or to a control unit (63).

Claim 62 (New). Method according to claim 52, wherein the control carriage (32) is moved backwards and forwards in a pendulum motion between the first and last dispenser magazine (13) in its displacement direction (46) at controlled time intervals and the distance (41) for determining the level (31) is detected in each dispenser magazine (13) during its displacement from the first dispenser magazine (13) to the last dispenser magazine (13) and/or from the last dispenser magazine (13) to the

first dispenser magazine (13), and the detected distance value of each dispenser magazine (13) is transmitted to the computer system or to a control unit (63).